

LATE 18TH AND EARLY 19TH CENTURY FORAYS INTO ECONOMIC GEOLOGY – SOME LITTLE KNOWN FRANCO-GERMAN PAPERS DESCRIBING CARCLAZE OLD TIN PIT, NEAR ST. AUSTELL, CORNWALL

C.M. BRISTOW



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Carclaze Old Pit lies on the southern boundary of the St. Austell Granite about 3 km NNE of St. Austell. It probably originated from tin stream workings in the Sandy Bottom valley following a rich source of tin to the crest of the hill, where a massive stockwork consisting of a tin-bearing greisen-bordered quartz-tourmaline vein swarm, adjacent to the granite margin, was developed by an open pit. This was a 'must-see' site for late 18th and early 19th Century geological visitors to Cornwall and there are many accounts and illustrations describing the pit and the method of working. The earliest scientific account was by a Frenchman, M. Jars from the Académie Royale des Sciences de Paris, who visited the pit in 1764. This was followed by other Frenchmen: Bonnard in 1803, Dufrenoy and de Beaumont in 1824-7 and Daubrée in 1841. Von Oeynhausen and Von Dechen from Germany provided the first geological map and cross-section of the pit in 1829, showing the layout of the veins. These accounts show a considerable understanding of economic geology; they are reminiscent of what would be called a 'feasibility study' today. This suggests that, in parallel with the development of stratigraphic geology and palaeontology mainly led by British geologists, there was a development of metalliferous economic geology, mainly led by French and German scientists. The earliest account of the pit by an English author was by Adam Sedgwick in 1822; in later publications in 1831 and 1835 he speculated on the formation of parallel vein swarms and schorl rock, partly based on his observations in Carclaze Old Pit. De la Beche provided a pen and ink sketch of the south face of the pit in 1839. Tin extraction from the Old Pit had practically ceased by the mid 19th Century as production switched to china clay. These accounts also show how the technology of the early china clay industry evolved from large scale open pit tin operations.

46 Chatsworth Way, Carlyon Bay, St. Austell, Cornwall, PL25 3SN, U.K.
(E-mail: mail@colinbristow.com)

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